

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Currently Amended) An off the road vehicle comprising:
 - a frame;
 - an engine operatively supported by said frame;
 - at least a first ground engaging drive wheel operatively supported by said frame;
 - a drive system for use in selectively driving said ~~[[as]]~~ at least first ground engaging drive wheel, said drive system being operatively connected to said engine~~[[;]]~~, said drive system including ~~an adjustable member~~ a transmission having a forward condition, a reverse condition and a neutral condition for driving said ground engaging wheel, said transmission having an actuator rod attached thereto for use in shifting the transmission between the forward, reverse and neutral conditions; [[and,]]
 - ~~an electronic~~ a transmission control system comprising:
 - (1) an operator actuated activating means;
 - (2) a shift control mechanism that selectively receives an input from said activating means and selectively sends a corresponding output; [[and,]]
 - (3) ~~[[an]]~~ a vacuum actuator operatively connected to said shift control mechanism and operatively connected to said ~~adjustable member~~ actuating rod; said vacuum actuator receiving said output from said shift control mechanism and adjusting said ~~adjustable member as a result~~ actuating rod to shift the transmission between said forward and reverse directions; and
 - (4) a sensing mechanism, said sensing mechanism comprising a sensor detector and a sensor, the sensor detector being connected to said actuator rod so as to move with the actuator rod when shifting the transmission between the forward, reverse and neutral conditions, wherein the sensor detects when the sensor detector is in a neutral condition and when the sensor detector is not in the neutral condition.

2. (Original) The off the road vehicle of claim 1 wherein:

~~said drive system further comprises a transmission and said adjustable member is operatively connected to said transmission and is used to adjust the direction of travel for the off the road vehicle;~~

said operator actuated activating means comprises first and second devices selectively sending corresponding first and second inputs to said shift control mechanism, said shift control mechanism sending corresponding first and second outputs; and,

said actuator causing said ~~adjustable member~~ actuating rod to move to a first position upon receipt of said first output wherein said first position of said adjustable member causes the at least first ground engaging drive wheel to rotate in a ~~clockwise~~ forward direction, said actuator causing said ~~adjustable member~~ actuating rod to move to a second position upon receipt of said second output wherein said second position of said ~~adjustable member~~ actuating rod causes the at least first ground engaging drive wheel to rotate in a ~~counterclockwise~~ reverse direction.

Claims 3-12 (Cancelled)

13. (New) A direction control system for an off-road vehicle having a drive system that selectively drives at least one ground engaging drive wheel, the drive system including a transmission having a forward condition, a reverse condition and a neutral condition for driving said ground engaging wheel, the control system comprising:

a plurality of push buttons, said push buttons comprising at least a forward, a reverse and a neutral push button;

a vacuum actuator;

an actuator rod operatively connected to the transmission and to the vacuum actuator, where the actuator rod is movable in first and second directions by said vacuum actuator into a forward position, a reverse position, and a neutral

position thereby commanding the transmission into said transmission into forward condition, the reverse condition, and the reverse condition, respectively;

a shift control mechanism that receives inputs from said plurality of push button and uses said inputs to control the vacuum actuator to selectively move the actuator rod to shift the transmission between the forward, reverse and neutral conditions based on the condition of said plurality of push buttons; and

a sensing mechanism, said sensing mechanism comprising a sensor detector and a sensor, the sensor detector being connected to said actuator rod so as to move with the actuator rod when shifting the transmission between the forward, reverse and neutral conditions, wherein the sensor detects when the actuator rod is in a neutral position and when the actuator rod is not in the neutral position.

14. (New) The direction control system of claim 13 wherein the shift control mechanism selectively activates a forward switch and a reverse switch, wherein activation of the forward switch energizes a first solenoid that causes the vacuum actuator to move the actuator rod in the first direction and activation of the reverse switch energizes a second solenoid that causes the vacuum actuator to move the actuator rod in the second direction.

15. (New) The direction control system of claim 14 wherein the shift control mechanism comprises a microprocessor based shift module that receives inputs from said plurality of push buttons to selectively activate said forward and reverse switches.

16. (New) The direction control system of claim 15 wherein the sensor is a ball switch that sends a neutral or not neutral signal to the shift module.

17. (New) The direction control system of claim 16 wherein the sensor detector is triangular in shape that includes an arcuate portion at the bottom and a hub near the top, wherein a notch is centrally located within the arcuate portion that receives

the ball sensor when the sensor detector is in a neutral position, and the hub receives a transmission rod operatively connected to the transmission that shifts the transmission between forward, reverse and neutral conditions.